

Claims

1. Water-permeable ground covering (1) for application to a substratum, wherein the superstructure 5 (6) of the ground covering (1) is a combination of compacted, mineral aggregates and organic binding materials, characterised in that the ground covering (1) has a multi-layered structure with a superstructure and a substructure (6 and 2 respectively), with the 10 substructure (2) having at least one layer of sand (4) on the substratum side and a layer of ballast (5) on the superstructure side, the average size  $k_{ballast}$  of the undersize particles of which amounts to 5 mm.
- 15 2. Ground covering according to claim 1, characterised in that layers of the superstructure and/or of the substructure (6 and 2 respectively) are connected together by bonding.
- 20 3. Ground covering according to one of the preceding claims, characterised in that the granulation of the aggregates  $k_z$  amounts to 1 to 7 mm.
- 25 4. Ground covering according to one of the preceding claims, characterised in that the average layer thickness  $d_o$  of the superstructure (6) amounts to 30 to 60 mm.
- 30 5. Ground covering according to one of the preceding claims, characterised in that the voidage of the superstructure (6) amounts to up to 45%.
- 35 6. Ground covering according to one of the preceding claims, characterised in that the mineral aggregates comprise a selection of quartzite, granite, basalt and quartz.

7. Ground covering according to one of the preceding claims, characterised in that the mineral aggregates have a narrow grain-size distribution, with the average size  $d_k$  of the grain amounting to a range between 1 to 5 mm, 2 to 3 mm, 2 to 4 mm, 2 to 5 mm or 3 to 7 mm.

8. Ground covering according to one of the preceding claims, characterised in that the mineral aggregates have a mixture of round grain and at least a proportion 10 of 20% angular grain.

9. Ground covering according to one of the preceding claims, characterised in that the binding material is a two-component epoxy resin binding material or a one-component polyurethane binding material or a two-component polyurethane binding material.

10. Ground covering according to one of the preceding claims, characterised in that a proportion of the 20 aggregates of the superstructure (6) are coloured and the proportion preferably consists of quartz sand.

11. Ground covering according to one of the preceding claims, characterised in that the average layer 25 thickness  $d_{sand}$  of the compacted layer of sand (4) amounts to at least 20 mm.

12. Ground covering according to one of the preceding claims, characterised in that the layer of ballast (5) 30 has undersize particles, whose average size  $k_{uballast}$  amounts to 5 mm.

13. Ground covering according to one of the preceding claims, characterised in that the average grain size 35  $k_{ballast}$  of the ballast (5) lies in a range between 5 to 16 mm, 16 to 22 mm or 16 to 32 mm.

14. Ground covering according to one of the preceding claims, characterised in that the average layer thickness  $d_s$  of the layer of ballast (5) amounts to 400 to 500 mm.

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15. Method for producing a ground covering according to one of the preceding claims, characterised by the following method steps:

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- application of a still deformable mixture of binding material and sand to the substratum (3),
- compacting of the binding-material/sand mixture,
- application of a still deformable mixture of binding material and ballast (5) to the layer of sand (4),

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- application of the upper layer consisting of a still deformable mixture of aggregates and binding material to the layer applied last,
- compacting of the still deformable mixture, and

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- hardening of the layers.

16. Method according to claim 15, characterised in that the superstructure (6) is applied to the substratum (2) even before the layer of the substratum (2) on the superstructure side has completely hardened.

25       17. Method according to claim 15 or 16, characterised in that a layer of sand (4) is applied after the layer of ballast (5) has been applied.

30       18. Method according to one of claims 15 to 17, characterised in that before the layer of ballast (5) is applied to the layer of sand (4), a layer (4 - *sic*) of binding material is applied to the layer of sand, for example by spraying.

19. Method according to one of claims 15 to 18,  
characterised in that before the superstructure (6) is  
applied to the layer of ballast (5), a layer of binding  
material is applied to the layer of ballast (5), for  
5 example by spraying.

20. Method according to claim 18 or 19, characterised  
in that the depth of penetration  $t$  of the layer of  
binding material amounts to at least 150 mm.